

CRS Periodic/Preventive Maintenance

(refer to Chapter 4, CRS Maintenance Manual, Revision 9.1, November 2003)

4-3.1 Introduction

The CRS hardware is designed for minimal operator intervention. All electronic assemblies and parts are built from solid state integrated circuit technology components.

Moving/rotating mechanical parts in critical LRUs are limited to the hard disk drive assemblies and fan unit assemblies in the MPs and FEPs. The hard disk drive is built as a fully sealed unit, with no requirements for preventive maintenance and with on-line status monitoring by the processors.

4-3.2 Periodic Maintenance Tasks

The required periodic maintenance tasks for each of the CRS components are identified as follows:

4-3.2.1 Main Processors

- Cleaning of fan guard on the back of the MPs
- Cleaning of inside of the MPs
- Cleaning of floppy disk drive heads of the MPs
- Performing CRS Alignment Procedures (Appendix H)

4-3.2.2 Front-End Processors

- Cleaning of fan guard on the back of the FEPs
- Cleaning of inside of the FEPs
- Cleaning of floppy disk drive heads of the FEPs
- Checking surge suppressors

4-3.2.3 Audio Control Panel

- No preventive or periodic maintenance required

4-3.2.4 Audio Switch Assembly

- No preventive or periodic maintenance required

4-3.2.5 17 inch and 15 inch Monitors

- Cleaning of unit

4-3.2.6 Dot Matrix Printer

- Cleaning and lubrication
- Changing ribbon cassette
- Loading paper
- Head-to-paper gap adjustment
- Vertical alignment of paper

4-3.2.7 General Cleaning of CRS Main Unit Cabinet and Workstation Units

- Cleaning of components within the CRS main unit cabinet
- Cleaning of components on the work station units

4-3.3 Performance Checks

There is no need for periodic checking of hardware performance related CRS characteristics as a preventive maintenance measure.

4-3.4 Preventive Maintenance Tasks

Tasks identified in paragraph 4-3.2 should be performed according to the frequency and procedures defined in table 4-1. None of the preventive maintenance tasks are critical in terms of the exact time interval between performances. As shown, certain procedures are found in the appropriate standard equipment manuals whereas others are included in paragraphs 4-3.5.

Table 4-1. Periodic/Preventive Maintenance

Periodic/Preventive Maintenance Procedure	Frequency	Reference
Main Processors Cleaning of Fan Guard on the back of the MPs Cleaning of inside of the MPs Cleaning of Floppy Disk Drive Heads of the MPs Performing CRS Alignment Procedures (Appendix H)	Every 6 months Every 6 months Every 12 months Every 12 months	Para. 4-3.5.1 Para. 4-3.5.2 Para. 4-3.5.3 Para. 4-3.5.4
Front-End Processors Cleaning of Fan Guard on the back of the FEPs Cleaning of inside of the FEPs Cleaning of Floppy Disk Drive Heads of the FEPs Checking of surge suppressors	Every 6 months Every 6 months Every 12 months Every 3 months	Para. 4-3.5.1 Para. 4-3.5.2 Para. 4-3.5.3 Para. 4-3.5.5
CRS 17" & 15" Monitors Cleaning of unit	Every 3 months	Para. 4-3.5.6
Epson Dot Matrix Printer Cleaning and lubrication Changing Ribbon Cassette Loading Paper Head-to-Paper Gap Adjustment Vertical Alignment of Paper General Cleaning of CRS Main Unit Cabinet & Workstation Units Cleaning of components within the CRS main unit cabinet Cleaning of components on the workstation units	Every 3 months As Required As Required As Required As Required Every 3 months Every 3 months	Epson User's Manual Para. 4-3.5.7 Para. 4-3.5.7

4-3.5 Periodic/Preventive Maintenance Procedures

The following procedures are associated with the maintenance tasks of Table 4-1 and supplement the standard equipment manuals where they do not provide the specific coverage.

4-3.5.1 Cleaning Fan Guards on MPs and FEPs

Clean the fan guards on a processor's power supply with a soft brush and a small vacuum cleaner.

Using a soft brush, loosen the accumulated layer of dust and particles on the fan guards so the vacuum cleaner can remove these particles before being blown through the computer system.

4-3.5.2 Cleaning the Inside of the MPs and FEPs

CAUTION

This task is performed with the appropriate processor powered down. Reference the Site Operator's Manual for the procedures to remove a processor from on-line processing to a power-down mode.

- 1) Refer to Appendix E and ensure all equipment cabling is properly marked before removing.
- 2) Disconnect all cables from the processor and remove the processor from its operational position to an antistatic worktable/work area.
- 3) Remove the three screws securing the chassis cover to the frame
- 4) Using a can of pressurized air with a directional tube attached to the nozzle, spray small areas of the system at a time (including the fan near the speaker), thereby removing dust and particles.
- 5) Use the vacuum cleaner for collecting dust and particles only. Do not brush any system components with the vacuum cleaner.
- 6) Replace the chassis cover and secure with the three screws.
- 7) Place the processor in its operational position.
- 8) Refer to appendix E and reconnect all cabling.

4-3.5.3 Cleaning Floppy Disk Drive Heads

The diskette drives are located in the MPs and FEPs. The required cleaning materials, provided by the CRS site, include:

- Cleaning diskette
- Cleaning solution

The procedures for cleaning floppy disk drive heads are:

- 1) Saturate cleaning areas on cleaning diskette with cleaning solution.
- 2) Insert cleaning diskette into floppy disk drive.
- 3) Activate cleaning diskette for about 30 seconds.
- 4) Remove cleaning diskette from floppy disk drive by pressing floppy disk eject button.

4-3.5.4 Performing CRS Alignment

The CRS Alignment Procedures (appendix H) should be performed at least once a year or after a component that may affect the CRS alignment is changed.

4-3.5.5 Checking of FEP Surge Suppressors

Check the FEP surge suppressors at least once every 3 months or after a nearby lightning event. The green "OK" status light should be on and the red "Fail" light off. Replace the surge suppressor if the "Fail" light is on.

4-3.5.6 Cleaning Monitors

Clean the outer surfaces of the monitors, including keyboards and video display units with a soft cloth dampened with a mild cleaning solution.

If necessary, use a soft brush and small vacuum cleaner to remove accumulated dust and particles between keys on the keyboard.

4-3.5.7 General Cleaning of CRS Main Unit Cabinet and Workstation Units

Using a soft cloth and a mild cleaning solution, wipe down the cabinet and workstations as well as components located on the workstations and inside the cabinet.